

REMARKS

This amendment is responsive to the Office Action mailed June 15, 2007. Reconsideration and allowance of claims 1-13 are requested.

The objections to the specification and drawings are addressed

The requested headings have been added by amendment. The element (316) is now mentioned in the description. Applicants respectfully request that these amendments be entered, and that the objections to the specification and drawings be withdrawn in view of these amendments.

The Status of the Claims

Claims 1-9 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Suzuki, U.S. Publ. Appl. No. 2003/0123603 A1 (hereinafter "Suzuki").

Claim 9 is objected to for an alleged informality.

The objection to claim 9 is addressed

Claim 9 has been placed into independent form, thus obviating the objection to the preamble inconsistency. Applicants therefore respectfully request that the objection to claim 9 be withdrawn.

The references of record

The **Background** of the present application sets forth a known radiology information system (RIS) in which devices for processing examination images are fashioned as RIS clients connected via a network to an RIS server. The RIS client is available on an operator console, i.e. user interface, so that the same user interface can be used to perform RIS functions related to processing of examination images and to send data requests via a digital image and communications in medicine (DICOM) work list to the diagnostic imaging modality in order to acquire imaging data. This known RIS system does not, however, provide a user interface which supports improving the efficiency of the workflow.

Suzuki relates to an image planning system for computed tomography (CT), which assists the operator in determining the reconstruction method based on the

scanning conditions. *See, e.g.* end of ¶[0005]. Additionally, Suzuki discloses a controller that controls the display and selection of the reconstruction method according to scan parameters or operator selection. *See, e.g.* ¶¶[0008]-[0018].

The image planning system of Suzuki operates prior to execution of the imaging data acquisition. The planning is assistive in that it determines, for example, the correct relationship between number of CT imaging slices, helical pitch, and sufficient sampling to avoid artifacts (*e.g.*, ¶[0007]), and grades and recommends a reconstruction method based on the CT imaging data acquisition parameters (*e.g.*, as shown in Fig. 8B).

The image planning system of Suzuki does not operate during execution of the operational items. Accordingly, it does not control the execution of operational items, and cannot issue instructions during execution of the operational items in the event manual intervention by the operator is needed. For example, the image planning system of Suzuki cannot provide instructions in the form of synthesized speech or display on the user interface to tell the operator when to start infusing a contrast agent, or when to apply a surface RF coil (in the case of an MRI) at its correct position.

Claims 1, 2, 4, 5, 7, and 10 Distinguish Patentably Over the References of Record

Claim 1 calls for a diagnostic imaging system comprising a control system to control the execution of operational items by the diagnostic imaging system; and a user interface coupled to the control system, the user interface including a scheduler module which generates an ordered selection of operational items. The control system controls the execution of operational items by the diagnostic imaging system on the basis of an execution list and the scheduler releases operational items to the execution list according to the ordered selection and provides progress information to the user interface related to the way the execution of operational items is advancing.

Claim 1 is amended to incorporate subject matter of claims 3 and 8 relating to control of the execution of operational items by the control system and providing by the scheduler of progress information on the way the execution of operational items is advancing.

Deletion from claim 1 of "in particular a magnetic resonance imaging system" is believed to be clarifying rather than broadening, as the Office Action appears to have given this phrase no patentable weight in examining claims 1, 3, and 8.

Suzuki relates to the planning of CT imaging, but this planning is performed prior to execution. The Office Action rejects the subject matter of claim 3 (now incorporated into claim 1) citing Suzuki ¶¶[0069], [0096]. Respectfully, the cited portions of Suzuki do not relate to execution of operational items, but only to the planning of the operational items by construction of the scanning schedule table. As discussed in ¶[0069], the user may input parameters such as a starting time for each scanning operation, a pause time between scanning operations, and so forth. But, these planning operations are performed prior to the scanning, and do not relate to control of the execution of operational items by the control system. Similarly, ¶[0096] relates to how the planning system assists in the planning by updating one parameter (e.g., helical pitch or tube current) based on a change of another parameter (e.g., number of slices). Again, this does not relate to control of the execution of operational items by the control system, but rather to the planning stage.

The subject matter of claim 8 (again, now incorporated into claim 1) stands rejected based on citation to Suzuki ¶[0070]. This paragraph discloses interactively changing parameters such as a reconstruction parameter, and updating the planning display (based on a scanogram image acquired without rotating the tube/detector rotationally, see ¶[0068]) in which the planning system provides recommendations for the various scan parameters and displays the effects of the changes on the scanogram.

This does not disclose or fairly suggest a scheduler that releases operational items to the execution list of a controller according to the ordered selection and provides progress information to the user interface related to the way the execution of operational items is advancing. Rather, what is disclosed in Suzuki ¶[0070] is the planning stage, prior to execution of the operational items.

New **claim 10** calls for the diagnostic imaging system to be a magnetic resonance imaging system. Suzuki relates exclusively to a planning system for a CT system, not for an MRI. Moreover, Suzuki's CT planning system is motivated by the difficulty CT operators have in deciding which CT reconstruction method to use

(¶[0005]), and thus there is no motivation to adapt the CT planning system of Suzuki to an MRI.

For at least the foregoing reasons, it is respectfully submitted that claims 1, 2, 4, 5, 7, and 10 distinguish patentably over the references of record. Accordingly, Applicants respectfully request allowance of claims 1, 2, 4, 5, 7, and 10.

Claims 6 and 11-13 Distinguish Patentably Over the References of Record

Claim 6 has been placed into independent form, and calls for a diagnostic imaging system including a control system to control the execution of operational items by the diagnostic imaging system and a user interface coupled to the control system. The user interface includes a scheduler module which generates an ordered selection of operational items. The scheduler module is arranged to issue instructions to the user prompted by the operational items during the execution of the operational items.

Claim 6 stands rejected in the Office Action with citation to Suzuki ¶[0067]. However, that paragraph merely states that the operator uses the planning system to call up a plan and optionally change plan parameters, and that the thusly set up schedule is executed by the host controller to control the gantry and bed.

Respectfully, there is no disclosure or fair suggestion of a scheduler module arranged to issue instructions to the user prompted by the operational items during the execution of the operational items. Indeed, the planning system of Suzuki is not even operative during the execution of the operational items. Rather, it is used to construct the schedule that is then executed.

Claim 11 calls for the diagnostic imaging system to be a magnetic resonance imaging system, and **claim 12** calls for the scheduler module to be arranged to issue an instruction to the user prompted by execution of an operational item calling for applying a surface RF coil. The subject matter of claim 12 is supported in the original specification at least at page 5 lines 22-24. Suzuki does not relate to MRI or to a scheduler module arranged to issue an instruction to the user prompted by execution of an operational item calling for applying a surface RF coil.

Claim 13 calls for the scheduler module to be arranged to issue an instruction to the user prompted by execution of an operational item calling for infusion of contrast

agent. The subject matter of claim 13 is supported in the original specification at least at page 5 lines 22-24. Suzuki does not mention such an operational item, nor does Suzuki disclose or fairly suggest a scheduler module arranged to issue instructions to the user prompted by such an operational item.

For at least the foregoing reasons, it is respectfully submitted that claims 6 and 11-13 distinguish patentably over the references of record. Accordingly, Applicants respectfully request allowance of claims 6 and 11-13.

Claims 9 and 3 and 8 Distinguish Patentably Over the References of Record

Claim 9 has been placed into independent form, and calls for a magnetic resonance imaging system comprising: a control system to control the execution of operational items by the magnetic resonance imaging system; a user interface coupled to the control system, the user interface including a scheduler module which generates an ordered selection of operational items; and a displaceable patient support. The control system is set up to displace the patient support among various imaging positions and conduct several different magnetic resonance imaging sequences at individual imaging positions such that the different magnetic resonance imaging sequences at each individual imaging position share the same geometry, and to alternate performance of the several magnetic resonance imaging sequences with the displacement of the patient support among the various imaging positions.

Claim 9 is amended to clarify a substantial advantage of the claimed system, namely that the different magnetic resonance imaging sequences at each individual imaging position share the same geometry. As discussed at least at page 5 line 30 ff., in this manner the number of patient displacements is reduced, and the operator only needs to perform geometry planning for each imaging position (i.e., station) once.

Claim 9 stands rejected in the Office Action with citation to ¶¶[0042], [0067]. While those passages disclose moving the patient bed during CT imaging, they do not disclose an MRI system in which the control system is set up to displace the patient support among various imaging positions and conduct several different magnetic resonance imaging sequences at individual imaging positions such that the different magnetic resonance imaging sequences at each individual imaging position share the same geometry. Indeed, Suzuki relates to spiral CT imaging which requires constant

patient motion, precluding the possibility of discrete imaging positions at each of which different magnetic resonance imaging sequences can be performed.

Claims 3 and 8 have been amended to depend directly or indirectly off claim 9.

For at least the foregoing reasons, it is respectfully submitted that claims 3, 8, and 9 distinguish patentably over the references of record. Accordingly, Applicants respectfully request allowance of claims 3, 8, and 9.

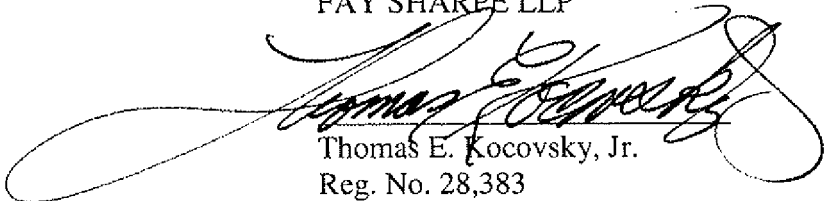
CONCLUSION

For the reasons set forth above, it is respectfully submitted that claims 1-13 distinguish patentably over the references of record and meet all statutory requirements. An early allowance of all claims is requested.

In the event that personal contact is deemed advantageous to the disposition of this case, the Examiner is requested to telephone the undersigned at (216) 861-5582.

Respectfully submitted,

FAY SHARPE LLP

A large, stylized handwritten signature in black ink, which appears to read "Thomas E. Kocovsky, Jr.", is written over the printed name and extends to the left.

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